Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Previously presented) A light emitting device, comprising:

a radiation source;

a luminescent material; and

a radiation scattering material located between the radiation source and the luminescent material;

wherein:

the radiation scattering material comprises radiation scattering particles located separately from the luminescent material;

a mean diameter of the radiation scattering particles is between $\lambda/3$ and $\lambda/2$, where λ is a first peak emission wavelength of the radiation source;

the radiation source comprises a light emitting diode or a laser diode emitting radiation having the first peak emission wavelength; and

the luminescent material comprises a phosphor which emits radiation having a second peak wavelength in response to incident radiation source radiation.

3. (Previously Presented) The device of claim 2, wherein:

the radiation source comprises a blue or ultraviolet light emitting diode or laser diode; and

the luminescent material comprises a phosphor layer or a dispersion of phosphor in a transmissive encapsulating material.

4. (Original) The device of claim 2, wherein:

the radiation source comprises a blue light emitting diode; and

the luminescent material comprises a yellow light emitting phosphor layer or a dispersion of a yellow light emitting phosphor in a polymer material.

5. (Original) The device of claim 4, wherein the light emitting diode comprises a blue emitting InGaN light emitting diode and the luminescent material comprises a dispersion of an epoxy or silicone and a YAG:Ce^{3+} phosphor.

6. (Original) The device of claim 3, wherein the radiation source comprises an ultraviolet light emitting diode and the luminescent material emits white light in response to the ultraviolet radiation emitted by the light emitting diode.

7. (Currently Amended) A light emitting device, comprising:

a radiation source;

a luminescent material; and

a radiation scattering material located between the radiation source and the luminescent material;

wherein:

the radiation scattering material comprises radiation scattering particles in a packed layer located separately from the luminescent material;

the radiation source comprises a light emitting diode or a laser diode emitting radiation having a first peak emission wavelength; and

the luminescent material comprises an organic dye which emits radiation having a second peak wavelength in response to incident radiation source radiation.

8. (Original) The device of claim 2, wherein the radiation scattering material comprises a layer of packed radiation scattering particles.

9. (Original) The device of claim 2, wherein the radiation scattering material comprises radiation scattering particles in a carrier medium comprising a transmissive body.

10. (Original) The device of claim 9, wherein:

the radiation scattering particles comprise particles selected from a group consisting of TiO_2 and Al_2O_3; and

the carrier medium is selected from glass, silicone and plastic material.

11. (Original) The device of claim 9, wherein:

the radiation scattering particles comprise 140 to 240 nm particles selected from a group consisting of TiO_2, $BaTiO_3$, Al_2O_3, SiO_2, $CaCO_3$, $BaSO_4$, and diamond; and

the carrier medium is selected from glass, epoxy, silicone and urea resin.

12. (Original) The device of claim 9, further comprising:

a package supporting the radiation source comprising a light emitting diode; and

wherein the radiation scattering particles in the carrier medium are located above the light emitting diode and the luminescent material is located above the radiation scattering particles in the carrier medium.

13. (Original) The device of claim 12, wherein the radiation scattering particles in a carrier medium comprise at least one of the following:

a) at least one light or UV radiation scattering particle layer in a glass passivation layer directly over the light emitting diode; and

b) light or UV radiation scattering particles in a silicone layer over the light emitting diode or over and on sides of the light emitting diode.

14. (Previously Presented) A light emitting device, comprising:

a radiation source;

a luminescent material;

a radiation scattering material located between the radiation source and the luminescent material; and

a package supporting the radiation source;

wherein:

the radiation scattering material comprises radiation scattering particles located separately from the luminescent material;

the radiation source comprises a light emitting diode emitting radiation having a first peak emission wavelength;

the luminescent material comprises a phosphor which emits radiation having a second peak wavelength in response to incident radiation source radiation;

the radiation scattering material comprises the radiation scattering particles located in a carrier medium comprising a transmissive body and a light or UV radiation scattering particle layer located on sidewalls of a reflector cup portion of the package containing the light emitting diode; and

the radiation scattering particles in the carrier medium are located above the light emitting diode and the luminescent material is located above the radiation scattering particles in the carrier medium.

15. (Previously Presented) The device of claim 14, wherein the radiation scattering material comprises all three of:

a) at least one light or UV radiation scattering particle layer in a glass passivation layer directly over the light emitting diode;

b) light or UV radiation scattering particles in a silicone layer over the light emitting diode or over and on sides of the light emitting diode; and

c) the light or UV radiation scattering particle layer on the sidewalls of the reflector cup portion of the package containing the light emitting diode.

16. (Previously Presented) A light emitting device, comprising:

a radiation source;

a luminescent material; and

a radiation scattering material located between the radiation source and the luminescent material;

wherein:

the radiation scattering material comprises radiation scattering particles located separately from the luminescent material;

the radiation source comprises a light emitting diode or a laser diode emitting radiation having a first peak emission wavelength;

the luminescent material comprises a phosphor which emits radiation having a second peak wavelength in response to incident radiation source radiation; and

the radiation scattering particles are located in a carrier medium comprising a transmissive body and the radiation scattering particles comprise at least two layers of TiO_2 particles in about a 1 micron to about a 2 micron thick silica layer arranged to achieve photonic crystal effects.

17. (Canceled)

18. (Previously Presented) The device of claim 2, wherein the radiation scattering particles scatter at least 50% more radiation source radiation than luminescent material radiation.

19. (Previously Presented) The device of claim 2, wherein the radiation scattering material does not luminesce and the luminescent material does not substantially scatter light or UV radiation.

20. (Previously Presented) The device of claim 19, wherein the luminescent material comprises a nanocrystalline phosphor.

21. (Currently Amended) A white light emitting device, comprising:

a package containing a reflector cup;

a light emitting diode in the reflector cup;

radiation scattering particles in a packed layer ~~or in a carrier medium~~ over the light emitting diode; and

a phosphor or an organic dye which emits radiation having a second peak wavelength in response to incident light emitting diode radiation having a first peak wavelength, such that the device output appears white to an observer;

wherein the phosphor or organic dye is located over and separately from the radiation scattering particles located in the packed layer ~~or in the carrier medium~~ and the phosphor or organic dye comprises a layer which does not contain radiation scattering particles.

22. (Previously Presented) The device of claim 21, wherein:

the light emitting diode comprises a blue or an ultraviolet light emitting diode;

the radiation scattering particles comprise light or UV radiation scattering particles in a carrier medium; and

the phosphor or the organic dye comprises a yellow or white light emitting phosphor layer or a dispersion of a phosphor in an epoxy or silicone.

23. (Previously Presented) The device of claim 22, wherein:

the light emitting diode comprises a light emitting diode having an emission wavelength of 365 to 420 nm; and

the phosphor or the organic dye comprises:

i) a white light emitting phosphor layer comprising one or more phosphors; or

ii) a dispersion of at least one phosphor and an epoxy or silicone.

24. (Previously Presented) The device of claim 22, wherein the light emitting diode comprises a blue emitting InGaN light emitting diode and the phosphor or the organic dye comprises a dispersion of an epoxy or silicone and a YAG:Ce^{3+} phosphor.

25. (Previously Presented) A white light emitting device, comprising:

a package containing a reflector cup;

a light emitting diode in the reflector cup;

radiation scattering particles in a carrier medium over the light emitting diode; and

a phosphor which emits radiation having a second peak wavelength in response to incident light emitting diode radiation having a first peak wavelength, such that the device output appears white to an observer;

wherein:

the phosphor is located over and separately from the radiation scattering particles located in the carrier medium;

the light emitting diode comprises a blue or an ultraviolet light emitting diode;

the radiation scattering particles comprise light or UV radiation scattering particles in the carrier medium;

the phosphor comprises a yellow or white light emitting phosphor layer or a dispersion of a phosphor in an epoxy or silicone;

the radiation scattering particles are selected from a group consisting of TiO_2, $BaTiO_3$, Al_2O_3, SiO_2, $CaCO_3$, $BaSO_4$ and diamond particles having a mean diameter of 50 to 500 nm; and

the carrier medium is selected from glass, epoxy, silicone and urea resin.

26. (Original) The device of claim 25, wherein the light scattering particles in a carrier medium comprise at least one of the following:

a) light or UV radiation scattering particles in a glass passivation layer over the light emitting diode; and

b) light or UV radiation scattering particles in a silicone layer over the light emitting diode or over and on sides of the light emitting diode.

27. (Original) The device of claim 26, wherein the light scattering particles in a carrier medium comprise both a), b) and

c) a light or UV radiation scattering layer on sidewalls of the reflector cup.

28. (Original) The device of claim 27, wherein the particles in the glass passivation layer comprise 120 to 200 nm TiO_2 particles in a silica glass layer.

29. (Original) The device of claim 27, wherein the particles in the silicone layer comprise a silicone layer containing 5-10% of 120 to 200 nm amorphous silica particles in contact with the top and the sides of the light emitting diode.

30. (Original) The device of claim 27, wherein the light or UV radiation scattering layer on the sidewalls of the reflector cup comprises a MgF_2 layer or a polymer layer.

31. (Previously Presented) A white light emitting device, comprising:

a package containing a reflector cup;

a light emitting diode in the reflector cup;

radiation scattering particles in a carrier medium over the light emitting diode; and

a phosphor which emits radiation having a second peak wavelength in response to incident light emitting diode radiation having a first peak wavelength, such that the device output appears white to an observer;

wherein:

the phosphor is located over and separately from the radiation scattering particles located in the carrier medium;

the light emitting diode comprises a blue or an ultraviolet light emitting diode;

the radiation scattering particles comprise light or UV radiation scattering particles in the carrier medium;

the phosphor comprises a yellow or white light emitting phosphor layer or a dispersion of a phosphor in an epoxy or silicone;

a mean diameter of the radiation scattering particles is between $\lambda/3$ and $\lambda/2$, where λ is the peak emission wavelength of the radiation source; and

the radiation scattering particles scatter at least 50% more radiation source radiation than luminescent material radiation.

32. (Previously Presented) A method of generating white light from a light emitting device, comprising a light emitting diode, a phosphor luminescent material and a radiation scattering material located between the light emitting diode and the luminescent material, wherein the radiation scattering material comprises radiation scattering particles located separately from the luminescent material, and a mean diameter of the radiation scattering particles is between $\lambda/3$ and $\lambda/2$, where λ is a first peak emission wavelength of the radiation source;

the method comprising:

supplying power to the light emitting diode;

generating a directional radiation comprising blue light or ultraviolet radiation having the first peak emission wavelength;

passing the directional radiation through the radiation scattering material to diffuse the directional radiation in a plurality of directions;

providing the diffuse radiation comprising blue light or ultraviolet radiation onto the luminescent material; and

generating white light by emitting radiation having a second peak wavelength from the luminescent material.

33. (Previously Presented) The method of claim 32, wherein:

the first step of generating comprises generating blue light;

the step of passing comprises passing the blue light through light scattering particles;

the step of providing comprises providing the diffuse blue light onto the luminescent material which comprises a yellow light emitting phosphor; and

the second step of generating comprises providing a mix of the yellow light from the phosphor and the blue light from the light emitting diode that is transmitted through the phosphor.

34. (Previously Presented) The method of claim 32, wherein:

the first step of generating comprises generating radiation having a wavelength between 365 and 420 nm;

the step of passing comprises passing the radiation through radiation scattering particles;

the step of providing comprises providing the diffuse radiation onto the luminescent material which comprises at least one white light emitting phosphor; and

the second step of generating comprises generating white light from the at least one phosphor.

35. (Original) The method of claim 34, wherein the radiation comprises ultraviolet radiation.

36. (Original) A light emitting device, comprising:

a radiation source;

a luminescent material layer which does not substantially exhibit Mie scattering; and

a radiation scattering phosphor layer, which exhibits Mie scattering of the radiation source radiation, located between the radiation source and the luminescent material.

37. (Previously Presented) The device of claim 36, wherein:

the radiation source comprises a blue light emitting diode;

the luminescent material layer comprises a discrete yellow light emitting phosphor layer having a first ~~a~~ mean particle diameter; and

the radiation scattering phosphor layer comprises a discrete yellow emitting phosphor layer having a second mean particle diameter smaller than the first mean particle diameter.

38. (Original) The device of claim 37, wherein the luminescent material comprises YAG:Ce^{3+} having a mean particle diameter between 1 to 10 microns and the radiation scattering phosphor comprises YAG:Ce^{3+} having a mean particle diameter between 120 and 200 nm.

39. (Previously Presented) The light emitting device of claim 2, wherein the luminescent material is located separately from the radiation scattering particles.

40. (Cancelled).

41. (Currently Amended) The light emitting device of claim 21, wherein the radiation scattering particles in the packed layer ~~or in the carrier medium~~ are located separately from the phosphor or organic dye.

42. (Previously Presented) The light emitting device of claim 36, wherein the radiation source comprises a light emitting diode.